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Appendix A
PROPOSED ACTIONS and SCHEDULE
Revision 6/3/2004

WATER SUPPLY ACTIONS

Implement SWP/CVP Integration Plan: DWR and USBR are working on a plan to improve integration of the State and federal water project operations. This plan would allow the SWP to convey CVP refuge water; allow the CVP to provide water to assist in meeting the SWP's water quality responsibility; and allocate available water from the "Phase 8" of the Bay-Delta water rights hearings (SWRCB) to the CVP and SWP. Intermediate steps to improve coordination and project reliability are proposed to be taken prior to the SWP Delta export limit being raised to the 8500 cfs level. The actions are: conveying up to 50,000 acre-feet of Level 2 refuge supply by the SWP; using up to 37,000 acre-feet of releases from Shasta Reservoir to meet SWP Delta water quality requirements; and implementing a program to protect the low point in San Luis Reservoir for water quality purposes. These actions are being evaluated in an early consultation process related to the development of the biological opinion for the CVP/SWP Operations Criteria and Plan and are proposed to be implemented during 2005, after full public review and completing NEPA and CEQA requirements.

Schedule:

- Complete CVP/SWP Operations Criteria and Plan Biological Opinion and early consultation on intermediate actions to improve CVP/SWP operation coordination by June 2004.
- Final Sacramento Valley Water Management Program (Phase 8) by March 2005
- Complete NEPA/CEQA analyses and public review of intermediate SWP/CVP operation actions by early 2005.
- Initiate formal consultation in the Fall of 2004 with the Biological Opinion issued in early 2005
- Implement intermediate CVP/SWP operation actions by Spring 2005

CVP/SWP Intertie: The construction and operation of a 400 cfs CVP/SWP pumping plant between the Delta Mendota Canal and the California Aqueduct will provide operational flexibility and improve water supply reliability for the CVP and the SWP. The project will allow the CVP to use the full permitted capacity of the Tracy Pumping Plant (4600 cfs). The agencies involved will develop cooperative operations criteria for the intertie. An increase of 500 cfs in the permitted and physical pumping capacity of the Tracy Pumping Plant is being pursued. The target date for obtaining federal authority for this increase is late 2006.

Schedule:

- Complete environmental documents by September 1, 2004
- Construct 400cfs CVP/SWP aqueduct intertie January 2005 to December 2005
- Operate increased 400 cfs conveyance capacity by January 2006

- Obtain Federal authorization to increase intertie conveyance by an additional 500 cfs by November 2006

South Delta Improvements Project/Increase SWP Pumping to 8,500 cfs: DWR and the USBR are proposing to increase the SWP diversion at Clifton Court Forebay to 8500 cfs, as described in the South Delta Improvements Project (SDIP). As proposed, SDIP also includes conveying 100,000 acre-feet of Level 2 refuge water for the CVP, using up to 75,000 acre-feet of releases from Shasta Reservoir for SWP Delta water quality requirements, installing permanent operable barriers for water level protection in the South Delta, dredging channels for increased conveyance capacity, and improving specific local diversions in the south Delta. South Delta water quality protection agreements will be integral to the increased pumping.

Schedule:
- Final SDIP EIS/EIR by Mid-2005
- Transitional implementation of 8500 cfs, dredging/diversion improvements, 2005-2007
- Construct permanent operable barriers by December 2007
- Fully operate under 8,500 cfs by January 1, 2008

WATER QUALITY ACTIONS

South Delta Improvements Project/Permanent Operable Barriers: DWR and USBR propose to dredge Delta channels and install permanent operable barriers to ensure water of adequate quantity and quality to agricultural diverters within the South Delta. These actions, along with the extension of approximately 24 agricultural diversions, will be considered in the South Delta Improvement Program EIS/EIR. Barriers are part of the CALFED Record of Decision and the CVPIA.

Schedule:
- The SDIP Final EIS/R and Record of Decision by Mid-2005.
- Begin actions in 2005

San Joaquin River Salinity Management Plan: The DWR and USBR, in cooperation with other CALFED agencies, will develop and implement a comprehensive San Joaquin River Salinity Management Plan (Plan) to comply with all existing Delta and San Joaquin River salinity (Electrical Conductivity, Total Dissolved Solids, and Chloride) standards for which the State and federal water projects have responsibility. The Plan will include, but not be limited to, the following salinity control and flow-related actions:

Schedule: Complete San Joaquin River Salinity Management Plan by January 2005

- **Drainage strategy:** Development and adoption of a coordinated agricultural drainage strategy for the San Joaquin River, including activities under the San Joaquin Valley Drainage Implementation Program, the USBR drainage program, the Grasslands Bypass Project, and related drainage and source control programs by the SWRCB and the Central Valley Regional Water Quality Control Board, and other agencies.

Schedule: Ongoing

- **Salt Load Management and Reduction:** Evaluation of the potential for additional salt load management and reduction in agricultural and wildlife areas that drain into the San Joaquin River from Salt and Mud Sloughs.

  Schedule:
  - SJVDIP and other grant funded projects are ongoing
  - USBR and DWR Drainage Programs are ongoing
  - Begin study of refuge salinity management by Summer 2004

- **Recirculation:** Through studies, pilot projects, and other actions, evaluation and implementation, if appropriate and authorized, of strategies to recirculate Delta exports using excess capacity from the Tracy pumping plant, the Delta Mendota Canal, the SWP Banks pumping plant, or the California Aqueduct to convey water for subsequent release into the San Joaquin River for purposes of reducing salinity concentrations.

  Schedule:
  - Initial studies for recirculation completed by January 2005

- **Water Transfers/Purchases:** Voluntary water transfers and exchanges to improve water quality.

  Schedule: Ongoing

- **Monitoring:** Real-time water quality monitoring and forecasting. Expand the real-time monitoring and forecasting capabilities of the DWR San Joaquin River Real-time Water Quality Management Program.

  Schedule: Ongoing

Vernalis Flow Objectives: The USBR and DWR will identify the capability to meet the existing flow objectives contained in SWRCB Water Right Decision 1641. The USBR will continue annually to notify CALFED agencies and local interests when the flow objectives cannot be met from Stanislaus River resources and will petition the SWRCB for an urgency change to permit conditions. The CALFED agencies in the Water Operations Management Team will be consulted on options to provide protection of the fish and wildlife beneficial uses otherwise provided by San Joaquin River flows. The signatory agencies anticipate that the SWRCB will conduct a review of these objectives in the near future, and these agencies will fully participate in the SWRCB process.

Schedule: Ongoing

Old River and Rock Slough Water Quality Improvement Projects: Contra Costa Water District will relocate agricultural drains in Veale and Byron Tracts. In accordance with the

CALFED ROD, these projects will be completed prior to the operation of the proposed permanent, operable barriers in the south Delta. In addition and in support of the CALFED Program objective of continuous improvement in Delta drinking water quality, CCWD will reduce seepage into the Contra Costa Canal.

Schedule:

- Construction of Veale and Byron tracts drainage improvements begins by June 2004
- Construction of first phase Canal lining project begins by May 2005

San Joaquin River Dissolved Oxygen : The Bay-Delta Authority is coordinating efforts of stakeholders and agencies to study and correct the low dissolved oxygen problem in the Deep Water Ship Channel near Stockton. Low dissolved oxygen concentrations disrupt migratory patterns of anadromous fish. This effort supports the development of a TMDL and Basin Plan Amendment by the RWQCB. These actions will lead to restoration of the dissolved oxygen conditions to meet the Basin Plan Objectives and protection of beneficial uses.

Schedule:

- Complete the RWQCB Phased TMDL and Basin Plan Amendment by July 2004
- Complete CBDA Implementation Plan by August 2004
- Complete monitoring and modeling studies by June 2007
- Design, construct and operate a demonstration aeration system, Fall 2005-2008
- Evaluate other control projects and mitigation strategies, April 2004- December 2008
- Complete Final TMDL/Basin Plan Amendment for long-term control by 2009

Franks Tract: A multi-year project plan with the goal of improving Delta water quality, ecosystem restoration, and recreation is under development by DWR, U.S. Geological Survey and stakeholders. Reconfiguring levees and circulation through the existing flooded island could significantly reduce salinity at south and central Delta water intakes in certain times of the year.

Schedule:

- Conduct feasibility studies, assess fisheries and fishing impacts and develop pilot projects. March 2004 - January 2006
- Construct and monitor pilot projects. January 2006 - January 2008

Delta Cross Channel Program: The USBR and an interagency team is investigating alternative gate operation strategies to improve central and south Delta water quality while improving fish survival through the Delta. Information on benefits and costs of DCC reoperation will be used in conjunction with an evaluation of the proposed Through Delta Facility to determine appropriate future steps to meet overall Bay Delta Program objectives.

Schedule:

- Complete evaluations and make recommendations on reoperation by November 2005
- Implement reoperation recommendations by January 2006

Through Delta Facility: DWR and an interagency team will complete a feasibility investigation on a 4000 cfs Through Delta Facility to assess potential benefits and impacts on water quality

and fisheries, and determine its relationship to other proposed Bay-Delta actions. Whether or not to proceed with environmental documentation and implementation of a TDF will be determined following this evaluation.

Schedule:

- Complete evaluations, determine TDF technical viability, and recommend projects for implementation by November 2005
- Seek funding and initiate EIR/EIS for project implementation by January 2006

ENVIRONMENTAL PROTECTION ACTIONS

OCAP ESA Consultation: The DWR and USBR have prepared a Biological Assessment for the OCAP. Based on this document, USFWS and NOAA Fisheries will prepare coordinated Biological Opinions, including Preliminary Biological Opinions on SDIP. This integrated package will allow USFWS and NOAA Fisheries to comprehensively analyze the effects of proposed water project operations to covered species.

Schedule:

- OCAP Biological Opinion issued by June 30, 2004

SDIP ESA Consultation: Consistent with the CALFED ROD Conservation Agreement Regarding Multi-Species Conservation Strategy, DWR and USBR are preparing an Action Specific Implementation Plan (ASIP) for covered species potentially affected by the SDIP. USFWS and NOAA Fisheries will evaluate the SDIP Preliminary Biological Opinions and the ASIP to determine if reinitiation of consultation for SDIP is appropriate. The DFG will evaluate the ASIP for NCCP authorization.

Schedule:

- SDIP Biological Opinion issued by January 15, 2005

Update of CALFED ROD Programmatic ESA and ERP Commitments: The USFWS, NOAA Fisheries, and DFG will evaluate and may update the CALFED ROD programmatic regulatory commitments. The USFWS, NOAA Fisheries and DFG authorized programmatic compliance under FESA, CESA, and the NCCPA by establishing and implementing the Stage 1 milestones for restoration and species recovery, as detailed in the biological opinions and the MSCS Conservation Agreement. The CALFED ROD requires USFWS, NOAA Fisheries, and DFG to review these regulatory commitments provided to DWR and USBR by September 30, 2004, based on progress in achieving the milestones and the efficacy of the EWA, and to issue supplemental biological opinions and NCCP determinations which may retain the regulatory commitments to DWR and USBR described in the CALFED ROD. In part, these regulatory commitments are provided by the operation of the EWA and funding for the ERP at levels sufficient to provide for adequate protection and recovery of covered species, as described in the CALFED ROD.

Schedule:

- Complete evaluation of the EWA, progress toward achieving the milestones, and annual ERP funding by June 2004
- Complete an updated Biological Opinions by September 30, 2004

Environmental Water Account (EWA): The EWA is a cooperative management program implemented by DWR, USBR, USFWS, NOAA Fisheries, and DFG whose purpose is to provide fish protection in the Bay-Delta Estuary through environmentally beneficial changes in the operations of the SWP and the CVP at no uncompensated water cost to the projects' water users. The agencies acquire water or modify operations to create "EWA assets", which they use to augment streamflows or Delta outflows, modify exports to provide fishery benefits and replace the regular project water supply interrupted by the changes to project operations. The EWA was a four-year experiment, subject to continuation by agreement of the agencies. There is now broad agency and stakeholder support to continue to EWA beyond Year 4. The agencies will determine the fixed and variable "assets" and the water management and agreements needed to successfully implement a long-term EWA.

Schedule:
- Decision on continuing EWA by Fall 2004
- Draft EIS/EIR on long-term EWA by Spring 2005
- Final EIS/EIR on long-term EWA by Fall 2005

Delta Regional Ecosystem Restoration Implementation Plan (DRERIP): The DRERIP is the first of four regional plans intended to guide the long-term implementation of the California Bay-Delta Program's Ecosystem Restoration Program element. The DRERIP refines the planning foundation specific to the Delta, refines existing restoration actions and guides Delta-specific program tracking, performance evaluation, and adaptive management feedback.

Schedule:
- Complete development and peer review of species life history and ecosystem element conceptual models by December 2004
- Evaluate Delta ERP Actions and approve priority setting process by May 2005
- Complete final DRERIP in December 2005

SCIENCE ACTIONS

Independent Science Board: The CBDA Independent Science Board will continue to provide input to the CBDA on implementation of this MOU regarding the long-term risks and challenges associated with providing water supply reliability, improving water quality, and protecting key species by restoring the Delta ecosystem.

Schedule: Ongoing

Environmental Water Account Independent Reviews: The CBDA Science Program established an independent technical review panel, which conducted reviews of the EWA program annually since October 2001. These reviews focused on the technical basis underlying

the use of EWA assets for environmental benefit and on the relative effects of diversions and upstream operations on aquatic species of concern.

The EWA agencies (USBR, DWR, USFWS, NMFS, and DFG) are now focused on the development of a long-term EWA. The CBDA Science Program will coordinate review and provide feedback on proposed mechanisms for adapting the EWA based on new information.

Schedule:

- EWA Science Panel review in November 2004.

Focused Study on South Delta Hydrodynamics and Fish: DWR, USBR, USGS, DFG, and USFWS are investigating critical gaps in the understanding of fish movements, distribution, and entrainment due to various CVP and SWP operational regimes. These studies will help evaluate the near and far-field effects of South Delta exports and barrier operations on fish so that potential benefits of the EWA, VAMP, or SDIP operational options can be maximized. In addition, the effort will be used to support future planning activities.

Schedule:

- Conduct pilot investigations on South Delta hydrodynamics, fisheries, and water quality between May 2004 and July 2005
- Conduct full scientific study on SWP/CVP operations based on pilot work and peer review between March 2005 and July 2007.
- Make operations recommendations by July 2008

Focused Study on Delta Smelt and Fish Facilities: DFG will evaluate delta smelt survival in the fish salvage process at the South Delta export facilities. Specifically, these studies will evaluate survival through the collection, handling, transport, and release processes used. This information will assist in developing improved fish facilities at the State and Federal South Delta export facilities.

Schedule:

- Evaluate fish survival in the existing CHTR process between April 2004 and June 2007.
- Recommend implementing CHTR improvements for Delta smelt by July 2008.

Science Program PSP: The CBDA Science Program's solicitation process (PSP) is designed to address gaps in scientific information related to key issues about the relationship between various water management actions and biological resources. Through these scientific evaluations, recommendations on future actions will be based.

Schedule:

- Initial Proposal Solicitation Package on Science agenda will be awarded to various entities in December 2004.

SWRCB Periodic Review: The CBDA Science Program will work with the signatory agencies to provide key summaries and analyses of research on Delta water operations and biological resources to the SWRCB as part of its periodic review of Delta water objectives. These

summaries and analyses will include but are not limited to: (1) salinity management and objectives in the South Delta; (2) San Joaquin River Dissolved Oxygen issues in the Stockton Deep Water Ship Channel; (3) the Delta Outflow (this objective often referred to as X2); and (4) the Vernalis flow and salinity objectives.

Schedule:

- Periodic review started in spring of 2004

South Delta Fish Facilities: The USBR and DWR will continue to evaluate potential improvements to fish facilities in the South Delta to ensure operation as originally intended to accommodate changing environmental conditions and proposed operations. In addition, recommendations on alternative facilities, combined operations, and intake locations will determine how fish facilities should be implemented with SWP operations in the future.

Schedule:

- Improve existing fish facilities. Continuous implementation
- Conduct alternative facility configurations and operational studies. July 2004 to July 2006
- Recommendation on new fish facility alternatives (with SDIP 10300). July 2006

Performance Evaluation and Monitoring Program: The signatory agencies, working with the Interagency Ecological Program and the Central Valley Regional Water Quality Control Board, will design and implement a Performance Evaluation and Monitoring Program. This program will evaluate the water quality and biological resource effects of the CVP, SWP, and the Delta activities described in this MOU. This program will be designed to fully evaluate compliance with existing regulatory requirements (including the MSCS and Water Right Decision 1641) and progress towards achievement of CALFED Program goals, including continuous improvement in Delta water quality for all uses and restoration and recovery targets for endangered species.

This program will include, at a minimum, performance measures, conceptual models, adaptive management strategies, data handling and storage protocols, expected products and outcomes, regular reporting, and an independent review of existing monitoring programs. The proposed program will be submitted to the CBDA Science Program for external review, and to the CBDA Independent Science Board (ISB) for a recommendation on the proposed program to CBDA.

The proposed program will include an annual technical report by the signatory agencies, in a form acceptable to and submitted to the CBDA Lead Scientist, that describes significant advances in scientific understanding of the system, status and trends of water quality and biological resources, causes for any significant changes in water quality or biological resources, and recommendations for further study.

Significant findings from this annual technical report will be summarized by the CBDA Science Program, in cooperation with the signatory agencies, and provided to the CBDA. This annual summary of significant findings to the CBDA will identify any failure to meet existing water quality objectives, achieve continuous improvement in Delta water quality, and restoration and recovery targets for endangered species, and any necessary corrective actions as needed.

Schedule:

- Final Conceptual Plan and draft funding needs by July 31, 2004
- Final Implementation Plan for Comprehensive Monitoring Plan by July 31, 2005
- Program implementation by January 1, 2006